HYGIENE AND PUBLIC HEALTH.

UNDER THE CHARGE OF
CHARLES HARRINGTON, M.D.,
ASSISTANT PROFESSOR OF HYGIENE, HARVARD MEDICAL SCHOOL.

Significance of Nitrites in Water.—The opinion of a number of recent writers to the effect that the significance of nitrites in water is sometimes overrated receives additional confirmation from a study of the subject by Dienert (*Rèvue d'Hygiène* April 20, 1903), who concludes as follows: 1. Nitrites may be found in the subsoil in the absence of pollution. 2. Pollution is not always followed by the formation of nitrites. 3. It is necessary to take certain precautions in testing, for nitrites may be formed during transportation if the temperature is sufficiently high. The test should be made on the spot at the time of taking the sample. 4. Judgment of potability should not be based upon the presence of nitrites.

The Campaign Against Malaria.—It is stated by KOCH (*Zeitschrift für Hygiene und Infectionskrankheiten*, xliii., May 22, 1903, p. 1) that when he first turned his attention to the study of malaria he soon became convinced that the best plan of campaign was to seek out the bearers of the parasite and destroy it in their systems with quinine, paying no attention to the specific mosquito; for the parasite is to be found only in the human body and the anopheles mosquito, which latter, in the absence of infected persons, cannot generate it themselves. In an experiment at Stephansort he restricted the work of eradication on these lines and with great success. Prosch (*Ibidem*, p. 5) conducted a similar experiment in the islands of Brioni, and the work was carried out so thoroughly that whereas, prior to the experiment, whoever came to Brioni, even for a short visit, during the fever season was almost sure to contract the disease, and this condition had been the case beyond the memory of man. At the end of two years' seeking out those who harbored the parasite and treating them continuonsly with quinine, the disease was practically eradicated; and 170 men who settled on the island free from the disease remained more than a year without a single seizure. Bludau (*Ibidem*, p. 67) carried on a similar campaign at Punta Croce, on the island of Cherso, with equally favorable results; and Vagades (*Ibidem*, p. 83) another in Franzfontein, German Southwest Africa, also successfully. Bludau found the parasites chiefly in children, of whom but four out of thirty-two failed to yield them. Vagades found in his first examination that 68 per cent. of the natives were infested, and in his later examinations the proportion increased to 75 per cent. Among the surrounding tribes, from 28 to 71 per cent. were found to be carriers of the parasite. After a year's work on Koch's lines a very great improvement was observed, for during the next twelve months but fifteen cases of the disease were discovered, and four of these were imported cases.

The genesis of winter outbreaks of malaria is explained by Jancso

(*Deutsches Archiv für klinische Medicin*, lxxvi., p. 474), who tells of an outbreak of the æstivo-autumnal type which occurred among the attendants and patients of a hospital during winter weather, with ice and snow on the ground. Infected mosquitoes may be present in buildings even when the outside temperature is inimical to their activity, and in this particular instance the distributing agents were infected laboratory specimens which escaped from their cage and made their way to the wards and other parts of the hospital, where they bit a number of inmates, who came down with the disease. The mosquitoes were caught and examined and were found in all cases to contain the sporozoites.

Toxicity of Liqueurs.—The French Government requested the Academy of Medicine, some time ago, to make a study of the general question of the toxicity of liqueurs and to submit a list of those essential oils employed in their manufacture which may be considered as dangerous and another of those which are harmless. On March 10, 1903, the committee to whom the subject was referred, consisting of Laborde, Brouardel, Lancereaux, Cornil, Magnan, Pouchet, Motet, and Joffroy, reported their conclusions and submitted a list of oils which should be absolutely prohibited in the manufacture of drinks, because of their dangerous nature. This list included: oil of wormwood (absinthe), oil of rue, oil of gaultheria, oil of staranise, oil of hyssop, and oil of angostura. In a second list of objectionable oils, but not sufficiently objectionable to warrant absolute prohibition, are mentioned the volatile oils of clove, mace, nutmeg, peppermint, and a number of others. The Academy voted that all volatile oils, natural and artificial, and the various extractives which are incorporated with alcohol or wine, make drinks that are injurious and dangerous, the danger being due to the oils and alcohol. It calls particular attention to the danger of drinking them before meals, when their absorption is most rapid and their poisonous properties most active. It was also voted to recommend and to urge that measures be taken to diminish the sale of such drinks.

The Sanitary Significance of Tin in Foods.—As the result of extensive investigation of the subject of tin in foods, PROFESSOR K. B. LEHMANN (*Archiv für Hygiene*, xlv., p. 88) comes to the following conclusions: 1. Acute, but usually slight, disturbances of digestion may be caused by the use of foods which contain tin in large amounts in soluble form. Especially suspicious are old preserves containing malic and tartaric acids, if large amounts are consumed at one time. The number of cases of undoubted poisoning due to such foods is very small. 2. Ordinary canned meats and vegetables which are not acid or are only slightly acid rarely appear to cause acute poisoning; at least, in spite of the enormous use of these, no case is known. When one hears of "acute tin poisoning," one should think of spoiled food, and tin should not be blamed until all other explanations fail. 3. Cases of chronic poisoning from amounts of tin such as can be taken up on long contact (4 to 6 milligrammes per kilo and day) have never been observed. In experiments with cats, 10 to 14 milligrammes per kilo daily for a year to a year and a half did not appear to be markedly injurious. 4. Idiosyncratic susceptibility to tin is a theoretical possibility, but proof is lacking that such exists. 5. No special precautions appear to be necessary in the use of canned foods except with those which contain large amounts of malic acid or tartaric acid. Such should be put up in glass, porcelain, or wood. Further investigation with regard to acetic, lactic, and other acids is desirable. 6. In spite of the small danger to be anticipated from tin, it would be fortunate if a process of packing could be discovered which would effectually obviate the necessity of ingesting that metal with canned foods.

On the other hand, DR. PATRICK MANSON (*Journal of Tropical Medicine*, October 1, 1902) asserts that in the tropics cases of peripheral neuritis have been recognized as resulting from the ingestion of tin.

Bacteriological Condition of Milk After Treatment with Borax.—DR. A. P. F. RICHTER (*Archiv für Hygiene*, xliii., p. 151) has investigated the behavior of milk with borax, especially with reference to the checking of the growth of bacteria and of the coagulation of milk. He found that slight variations in the time of coagulation were due to differences in the freshness of milk and in the temperature of the place of storage, this ranging from 15° to 25° C. He succeeded in preventing coagulation permanently only after the addition of 4 per cent. of borax, but this amount of the drug caused such a disagreeable taste as to make the milk useless. His conclusions are as follows: 1. The development of bacteria seems to be furthered after a very short time, and this is due, perhaps, to the fact that the addition of borax facilitates the dissemination of colonies of bacteria. 2. The growth of *oidium lactis* is hindered considerably by borax. 3. The same is true of *B. acidi lactici* (Huppe) and *B. acidi lactici* (Günther). 4. The liquefying and other bacteria of putrefaction are not hindered in their growth by borax, but after a time they perish spontaneously. 5. In the first few days Hueppe's lactic acid bacteria are present in greatest number, especially in untreated milk, but they are succeeded later on by those of Günther. The greatest number of colonies occurs on the second and third day. From the sixth to the eleventh day there is a considerable diminution in the number of colonies in pure milk as well as in boraxed milk. 7. The surviving cocci were almost exclusively air cocci, chiefly *micrococcus candicans* (Flügge).

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All communications should be addressed to

DR. FRANCIS R. PACKARD, 1831 Chestnut Street, Philadelphia, U. S. A.